



The effect of climate anomalies and human ignition factor on wildfires in Russian boreal forests

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Abstract:

Over the last few years anomalies in temperature and precipitation in northern Russia have been regarded as manifestations of climate change. During the same period exceptional forest fire seasons have been reported, prompting many authors to suggest that these in turn are due to climate change. In this paper, we examine the number and areal extent of forest fires across boreal Russia for the period 2002-2005 within two forest categories: 'intact forests' and 'non-intact forests'. Results show a far lower density of fire events in intact forests (5-14 times less) and that those events tend to be in the first 10 km buffer zone inside intact forest areas. Results also show that, during exceptional climatic years (2002 and 2003), fire event density is twice that found during normal years (2004 and 2005) and average areal extent of fire events (burned area) in intact forests is 2.5 times larger than normal. These results suggest that a majority of the fire events in boreal Russia are of human origin and a maximum of one-third of their impact (areal extension) can be attributed to climate anomalies alone, the rest being due to the combined effect of human disturbances and climate anomalies.

Source: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2606783>

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes, Extreme Weather Event, Precipitation, Temperature

Extreme Weather Event: Wildfires

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

Other Geographical Feature

Other Geographical Feature : Forests

Geographic Location:

Climate Change and Human Health Literature Portal

resource focuses on specific location

Non-United States

Non-United States: Asia

Asian Region/Country: Other Asian Country

Other Asian Country: Russia

Health Impact: ☒

specification of health effect or disease related to climate change exposure

Health Outcome Unspecified

Mitigation/Adaptation: ☒

mitigation or adaptation strategy is a focus of resource

Mitigation

Resource Type: ☒

format or standard characteristic of resource

Research Article

Timescale: ☒

time period studied

Time Scale Unspecified